FLUID SEPARATION CONDUIT CARTRIDGE WITH ENCRYPTION CAPABILITY (005092.00031)

Cross-Referenced Applications

This application claims priority to commonly assigned U.S. Patent Application No. 60/239,010 titled "Microfluidic Substrate Assembly and a Method for Making Same" and filed on October 06, 2000, commonly assigned U.S. Patent Application No. 60/239,063 titled "Liquid Separation Column Smart Cartridge " and filed on October 06, 2000, commonly assigned U.S. Patent Application No. 60/238,805 titled "Liquid Separation Column Smart Cartridge with Encryption Capability" and filed on October 06, 2000, and commonly assigned United States Patent Application No. 60/238,390 titled "Microfluidic Substrate Assembly and a Method for Making Same" and filed on October 06, 2000, the entire disclosure of each of which is hereby incorporated herein by reference for all purposes.

Field of Invention

This invention pertains to a fluid separation conduit cartridge, in particular, to a fluid chromatography conduit cartridge that has the ability to encrypt, compress, transmit, receive, and decrypt information.

Background

Molecules can be separated effectively by employing liquid chromatography ("LC"). A typical liquid chromatography system consists of a column and solvent that traverses the entire column. High pressures are usually required to pump solvent through the column leading to the development of high pressure or high performance liquid chromatography (HPLC). High performance liquid chromatography systems typically consist of high pressure pumps, at least one solvent reservoir, a column capable of withstanding relatively high pressures, and a detector. Columns used in HPLC typically consist of packing material. In most instances this packing material includes silica-based particles typically with functional groups (defining a column's chemistry) attached to these silica-based particles. The packing of the column is a critical event in the construction of a specific column, for the integrity of the packed bed impacts the overall resolution capability of the column. As the bed becomes disrupted through any series of events,